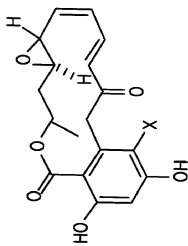
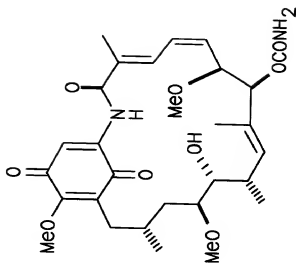


FIG. 1



X=Cl Radical (1)

X=H Monocillin I (2)



Geldanamycin (3)

FIG. 2

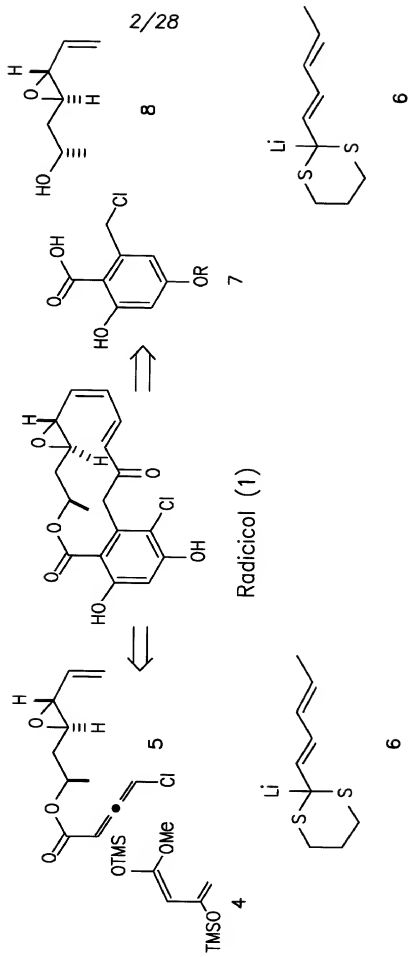
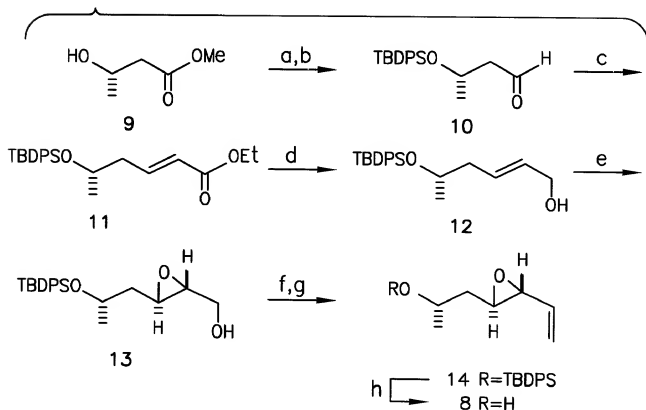


FIG.3

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- (a) TBDPSCI, imid., >95%; (b) DIBAL-H, -78 °C, 92%;
 (c) LiCl, DIPEA (EtO)₂P(O)CH₂CO₂Et, 95%;
 (d) DIBAL-H, -20 °C, 96%; (e) (+)-DET, Ti(O*i*Pr)₄, TBHP, 90%, >95%ee; (f) SO₃*pyridine, Et₃N, DMSO, 90%;
 (g) PH₃PCH₃Br, NaHMDS, 0 °C, 82%; (h) TBAF, 89%.

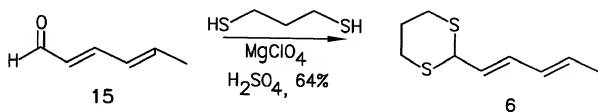
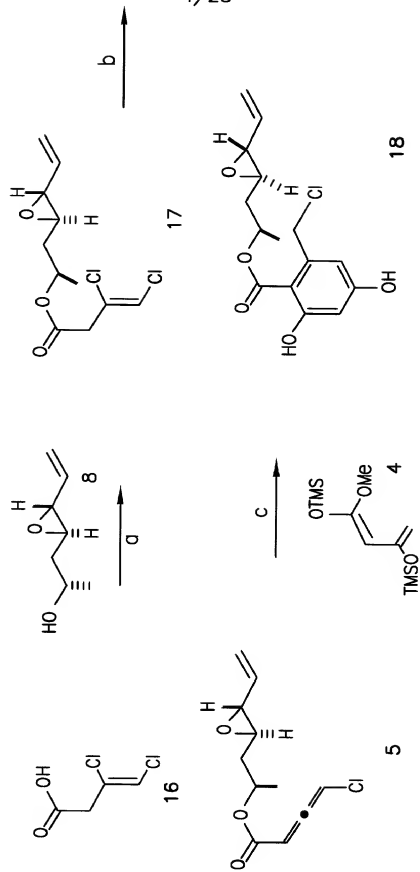


FIG.4



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FIG. 5

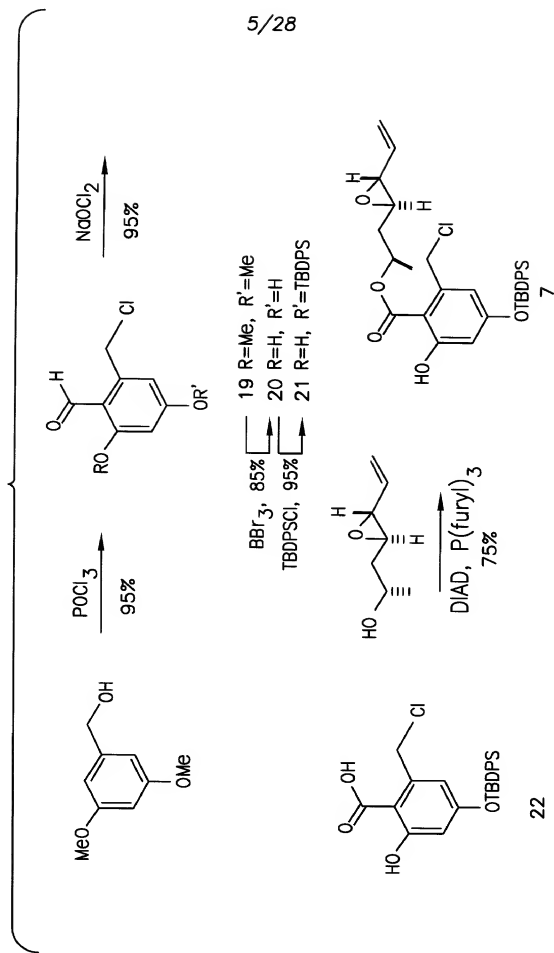
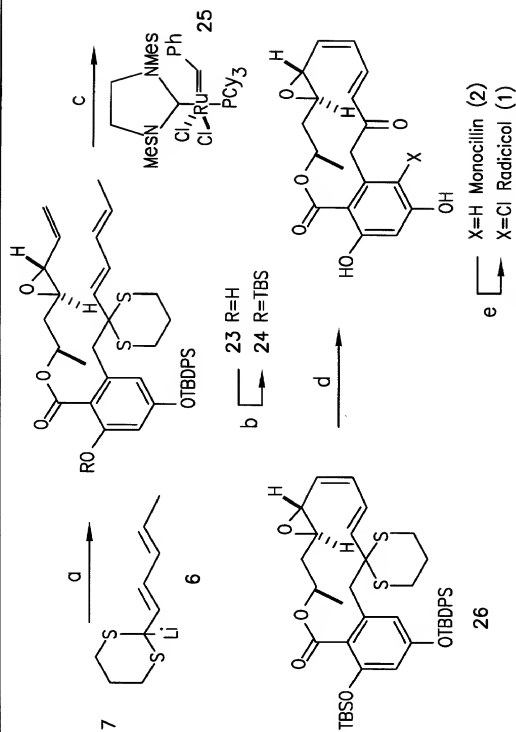


FIG. 6

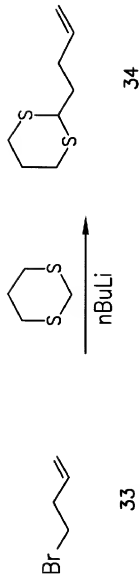


a. n-BuLi, -78 °C, 50% (6:1); b. TBSCl, 83%; c. **42** C, 70%; d. (i) mCPBA, (ii) Ac₂O, Et₃N, H₂O, 60 °C, (iii) NaHCO₃, MeOH, 60%; e. SO₂Cl₂, 50%

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FIG.8



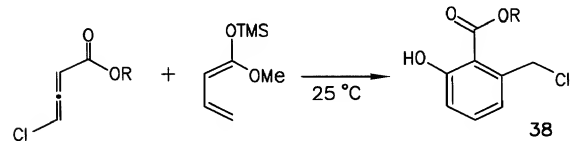
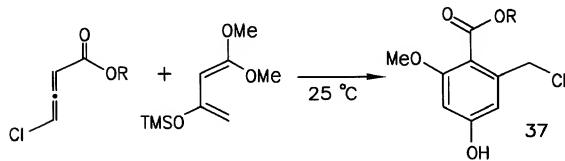
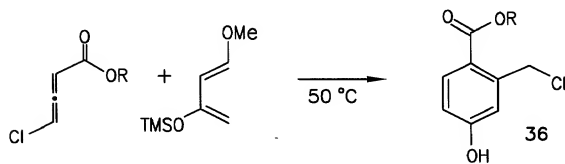
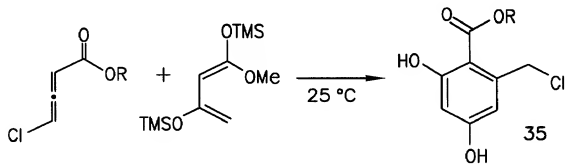
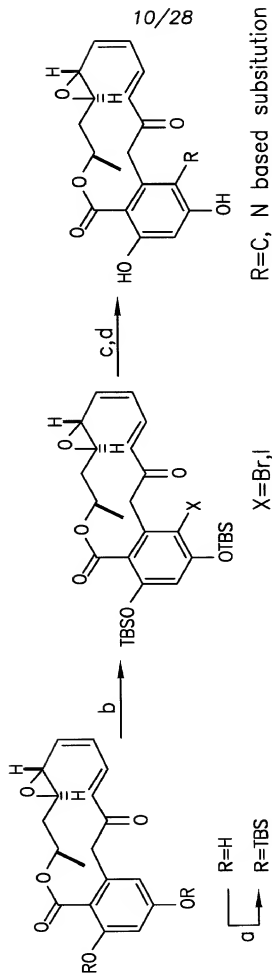
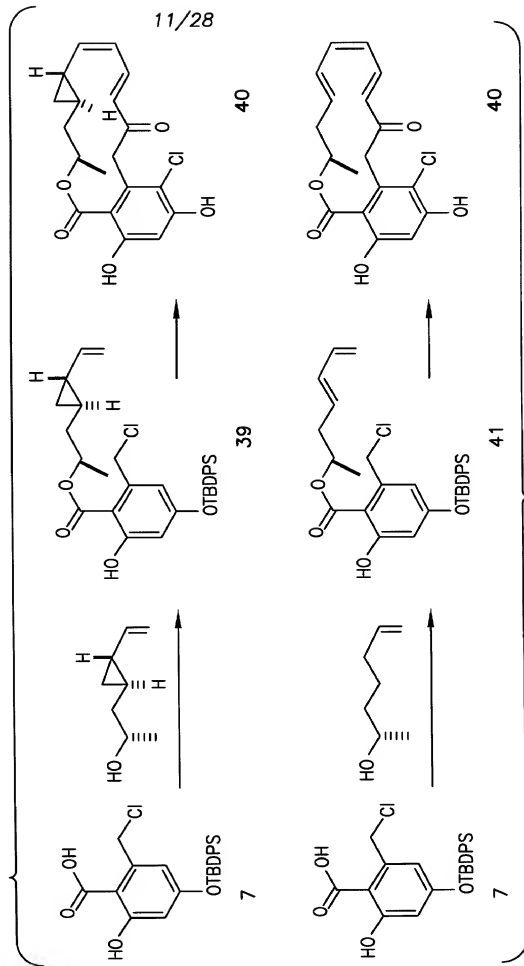


FIG.10



a. TBSCl, pyridine; b. NIS or NBS, TsOH; c. Pd(PPh)₃, RSnBu₃, d. nBu₄NF

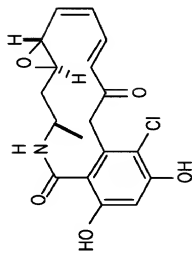
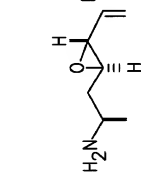
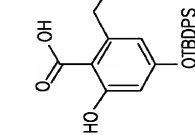
FIG. 11-1



TO FIG. 11-2

FROM FIG. 11-1

FIG. 11-2



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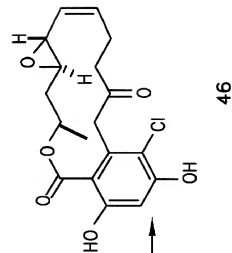
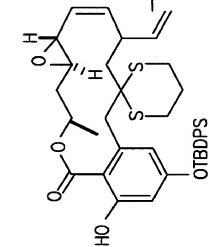
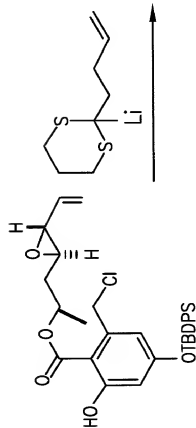
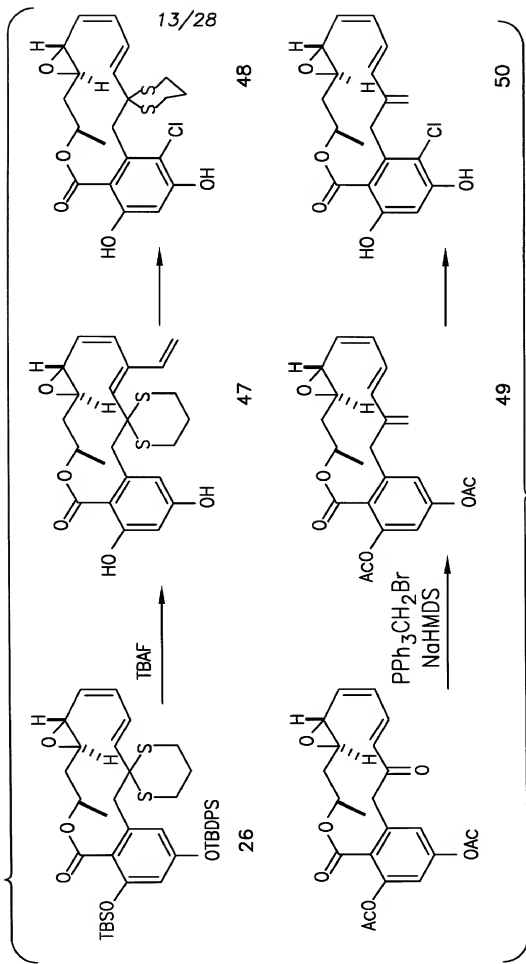


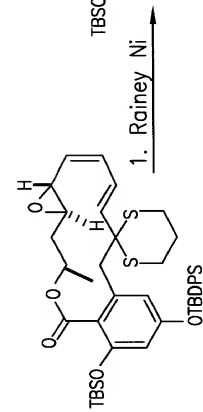
FIG. 12-1



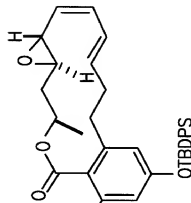
TO FIG. 12-2

FROM FIG. 12-1

FIG. 12-2



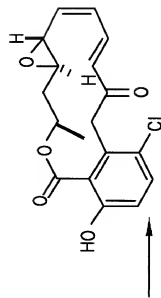
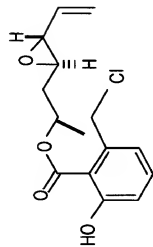
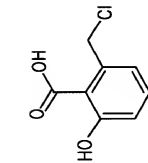
1. Rainey Ni



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51

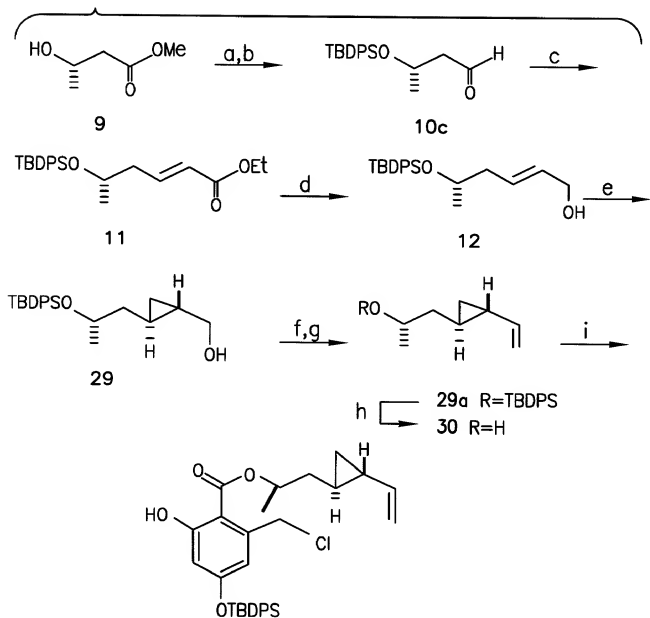


53

54

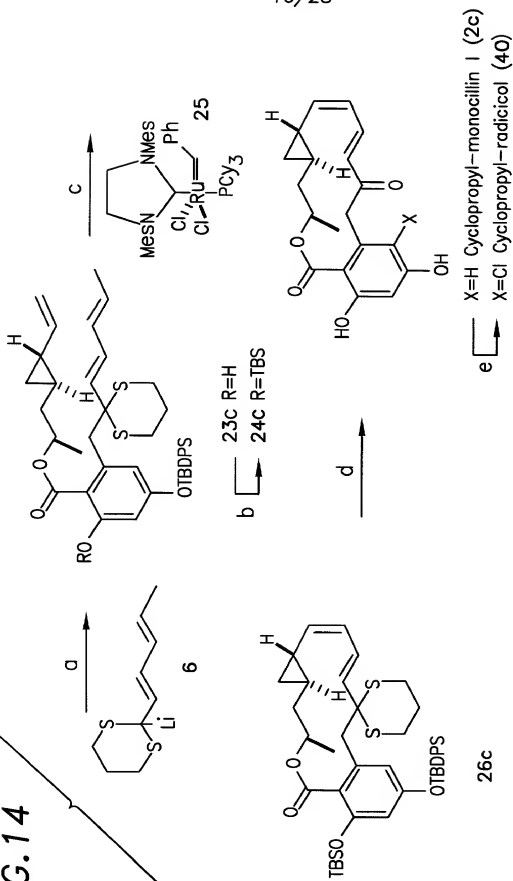
FIG. 13

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^a (a) TBDPSCI, imid., >95%; (b) DIBAL-H, -78 °C, 92%; (c) LiCl, DIPEA (EtO)₂P(O)CH₂CO₂Et, 95%; (d) DIBAL-H -20 °C, 96%; (e) (+)-tetramethyltartaric acid diamide-BBu, Et₂Zn, CH₂I₂, 9 >95% ee; (f) SO₃*pyridine, Et₃N, DMSO, 90%; (g) Ph₃PCH NaHMDS, 0 °C, 82%; (h) TBAF, 89%; (i) 7, P(furyl)₃, DIA benzene, 60%

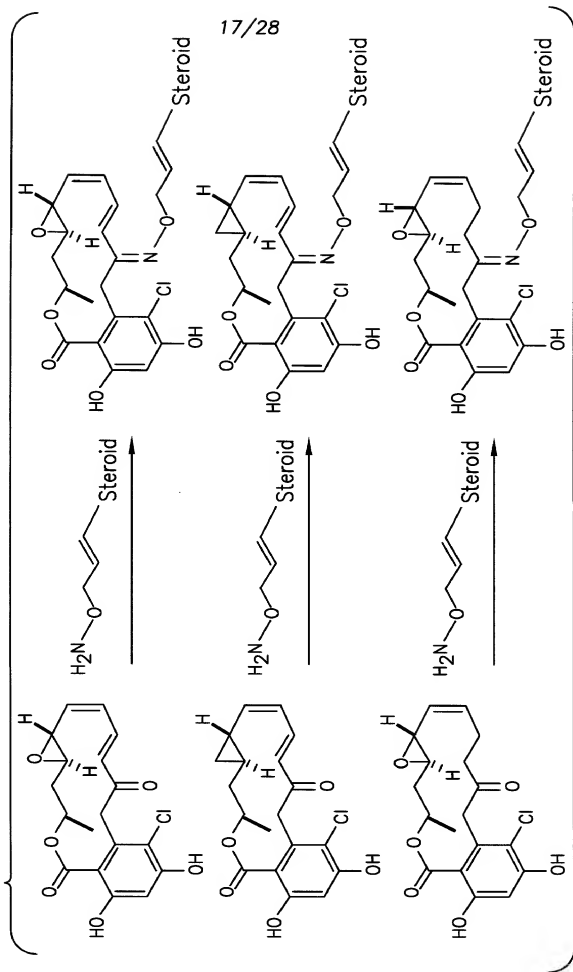
FIG. 14



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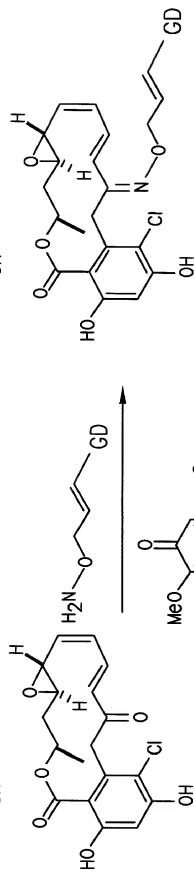
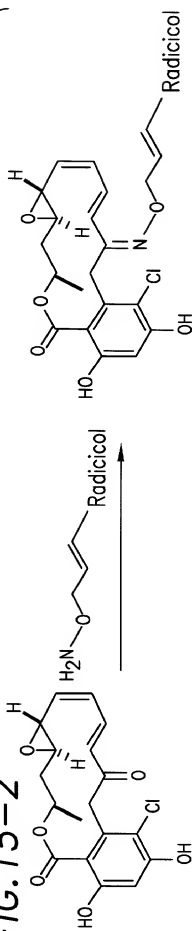
- a. *n*-BuLi, -78 °C, 75% (3:1); b. TBSCl, 83%; c. 42 °C, 20%; d. (i) mCPBA, (ii) Ac₂O, Et₃N, H₂O, 60 °C, (iii) NaHCO₃, MeOH, 60%; e. SO₂Cl₂, 80%

FIG. 15-1



TO FIG. 15-2

FROM FIG. 15-1

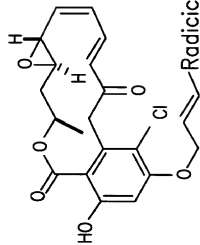
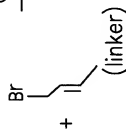
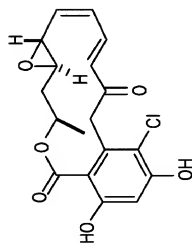
FIG. 15-2

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GD=Geldanamycin

FROM FIG. 16-1

FIG. 16-2



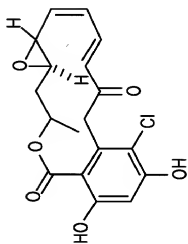
Radical, Steroid, GD

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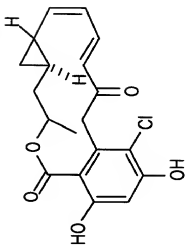
Radical, Steroid, GD

FIG. 17-1

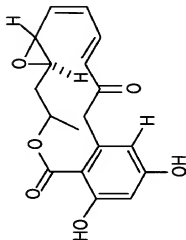
I. Radical



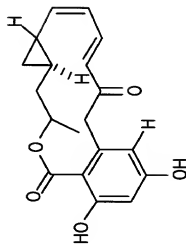
III. Cyclopropyl radical



II. Monocillin I



IV. Cyclopropyl monocillin

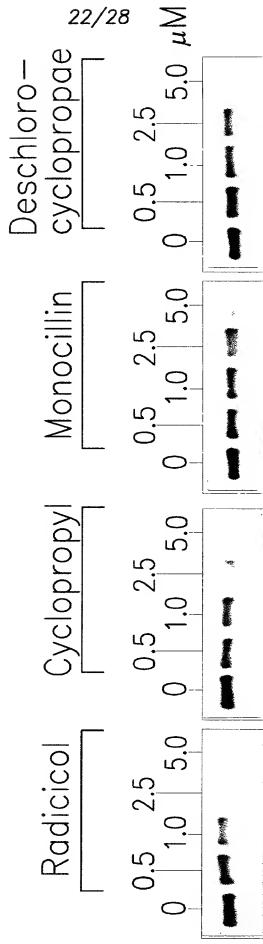


TO FIG. 17-2

FROM FIG. 17-1

FIG. 17-2

MCF7 Cells Treated with Radicicol and Analogues

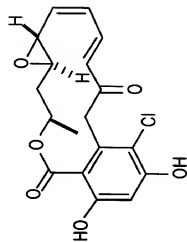


TO FIG. 17-3

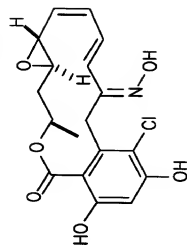
FROM FIG. 17-2

FIG. 17-3

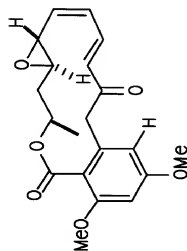
I. Radical



VII. Radical Oxime



V. Dimethyl Monocillin I



VI. Dimethyl Radical

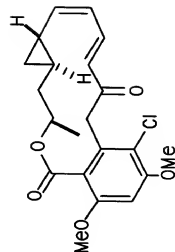
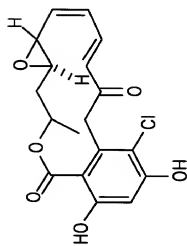
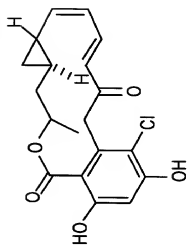


FIG. 18-1

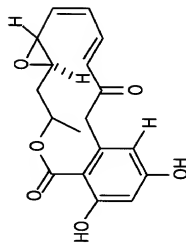
I. Radical



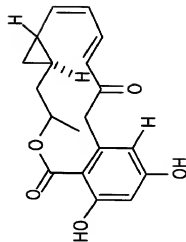
III. Cyclopropyl radical



II. Monocillin I



IV. Cyclopropyl monocillin



TO FIG. 18-2

FROM FIG. 18-1

FIG. 18-2*BT474 Cells Treated with Novel Radicicoli (24hrs.)*

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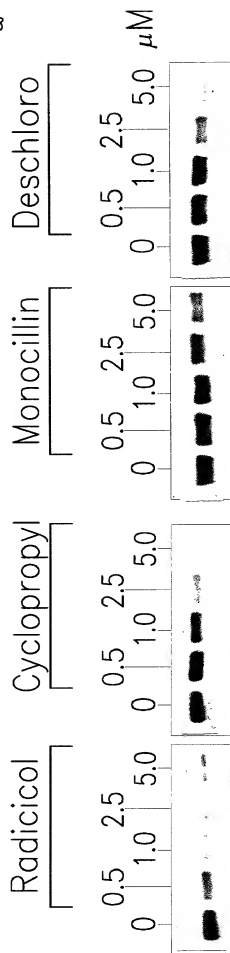
**HER2**

FIG. 19

Growth of MCF7 Treated with Radical and Derivatives of Radical

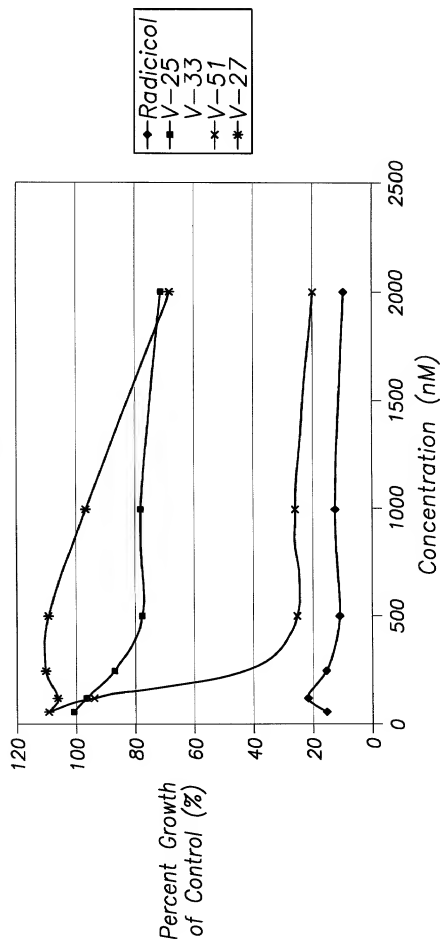
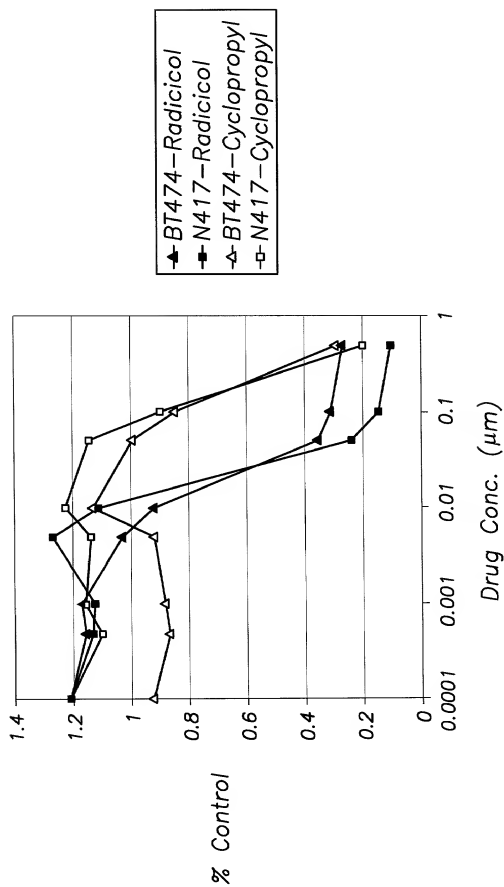


FIG.20



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FIG.21

